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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/825,944

04/16/2004

Jesse J. Kolstad

5557.P017

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09/07/2006

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EXAMINER

LE, THIEN MINH

ART UNIT

PAPER NUMBER

2876

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/825,944             | KOLSTAD ET AL.      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Thien M. Le            | 2876                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-41,45-56,102-114 and 124-136 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

The response to the restriction/election requirements filed on 6/27/2006 has been entered. Claims 1-41, 45-56, 102-114, 124-136 remain for examination.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Art Unit: 2876

Claims 1-9, 13-21, 28-33, 102, 109-114 are rejected under 35

U.S.C. 102(b) as being anticipated by Arends et al. (Arends et al. – 5,371,361; herein after referred to as Arends).

Regarding claims 1, 13, 28, 33, 102, Arends discloses a barcode scanning system having: (i) a variable gain amplifier; (ii) and the step of determining the amplitudes of the first and second frequency portions (12b' and 13b'; figure 2). As can be seen, Arends discloses the claimed invention. The following quotes are presented for further reviews:

Brief Summary Text - BSTX (24):

Although attempts have been made to extend the limits of the scan volume, frequent drawbacks have been encountered. In European Publication No. 0 433 593, recognizing that the lower amplitude portion 12b' of the analog signal (as illustrated in FIG. 2b) will have a higher frequency than the higher amplitude portion 13b', a variable gain amplifier is utilized to selectively amplify the lower amplitude portion 12b' of the analog signal. The objective is to compensate for the effects of the larger spot size by configuring the amplifier to have a frequency response which has a greater gain over higher frequencies than at lower frequencies. This filter is utilized to amplify the lower amplitude portion 12b' of the analog signal until it is about equal to that of the higher amplitude portion 13b'.

Detailed Description Text - DETX (2):

An aspect of the subject invention is the recognition that some of the problems with the prior art approaches stem from the fact that the impulse response of the opto-mechanical system used therein varies according to the position of the target being scanned within the scan volume of the scanner. Because of this characteristic, the variable gain amplifier, whose function, as described, is to compensate for the effects of a large spot size, will only imperfectly perform this function within the scan volume. Specifically, at some locations along the beam axis within the scan volume, the variable gain amplifier will overcompensate (i.e., amplify the high frequency components of the analog signal too much); while at other locations within the scan volume, the amplifier will undercompensate (i.e., not amplify the high frequency components enough). The effect of overcompensation is to introduce under-shoot and over-shoot into the analog signal. During digitization, this distortion can cause erroneous generation of digital pulses, which can lead to improper decoding of the bar code target. The effect of undercompensation is that the signal amplitude modulation depth is reduced as the element (e.g., bar) width becomes small relative to the spot diameter, and, therefore, the target becomes unreadable. Again, improper digitization and decoding of the signal can result.

Art Unit: 2876

Regarding claims 2-4, 6-9, 14-17, 18-21, 29-33, 102, and 109-114, see the discussions regarding claim 1. Further, Arends discloses that the step of selectively amplify the frequency portions of the analog signal which thus embrace the steps of determining/classifying the signal according to frequencies.

Regarding claim 5, see the discussions regarding claims 1-2.

### ***Allowable Subject Matter***

Claims 25-27, 45-56, 124-136 are allowed.

Claims 10-12, 22-24, 34-41, 103-108 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art discloses the system and method for providing gain to the respective frequency portions of the analog signal. However, the prior art fail to disclose: (i) the step of turning on/off the noise filter in the manners as recited in claims 10-12, 22-24; (ii) the steps of applying gains to the input of the amplifier in the manner as recited in claims 25-27, 45-47; (iii) the specifics of the gain elements as recited in claims 34-41, 48-56, 103-108.

### ***Conclusion***

Art Unit: 2876

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thien M. Le whose telephone number is (571) 272-2396. The examiner can normally be reached on Monday - Friday from 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**Le, Thien Minh**  
**Primary Examiner**  
**Art Unit 2876**  
**September 4, 2006**